

CLAIMS:

1. A rotation sensor for outputting a pulse signal, which has a frequency corresponding to a rotation speed of a 5 rotor, to a wire, the rotation sensor being characterized by:

10 a modulation unit for modulating an information signal representing information other than the rotation speed into a carrier wave having a frequency higher than the frequency of the pulse signal; and

an output unit for superimposing and outputting to the wire the pulse signal and the carrier wave.

2. The rotation sensor according to claim 1, 15 characterized in that:

the information signal is one of a plurality of information signals; and

20 the modulation unit modulates the plurality of information signals into a plurality of carrier waves having different frequencies that are higher than the frequency of the pulse signal.

3. The rotation sensor according to claim 1 or 2, further being characterized by:

25 an acquisition unit for acquiring the information signal from the external information source.

4. The rotation sensor according to claim 3, characterized in that:

30 the rotation sensor detects the rotation speed of a vehicle wheel; and

the information signal is a signal from a vehicle height sensor.

35 5. The rotation sensor according to any one of

claims 1 to 3, further being characterized by:

    a reception modulation circuit for receiving the information signal from the external information source as a radio wave and demodulating the information signal.

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6.     The rotation sensor according to claim 5, characterized in that:

    the rotation sensor detects the rotation speed of a vehicle wheel; and

10     the information signal is a signal from a tire air pressure sensor arranged in a tire.

7.     The rotation sensor according to any one of claims 1 to 6, characterized in that:

15     the modulation unit modulates the information signal and generates a carrier wave of 100 KHz to 10 MHz.

8.     The rotation sensor according to any one of claims 1 to 7, characterized in that:

20     the modulation unit intermittently modulates the information signal into the carrier wave.

9.     The rotation sensor according to any one of claims 1 to 8, characterized in that:

25     the modulation unit modulates the information signal by performing amplitude modulation to generate the carrier wave.

30     10.   The rotation sensor according to any one of claims 1 to 8, characterized in that:

    the modulation unit modulates the information signal by performing frequency modulation to generate the carrier wave.

35     11.   The rotation sensor according to any one of

claims 1 to 8, characterized in that:

the modulation unit modulates the information signal by performing phase modulation to generate the carrier wave.

5 12. A method for outputting a signal from a rotation sensor, the signal outputting method being characterized by:

outputting a pulse signal having a frequency corresponding to a rotation speed of a rotor to a wire;

10 modulating an information signal representing information other than the rotation speed into a carrier wave having a frequency higher than the frequency of the pulse signal; and

superimposing and outputting to the wire the pulse signal and the carrier wave.